

Application No. 10/804666
May 19, 2006
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CLMPTO

1. (Currently Amended) A module for an optical device ~~being provided with~~
comprising:
 - a solid-state image sensor having an effective pixel region formed on one side thereof ~~and an optical path demarcating unit for demarcating an optical path from an objective lens to said effective pixel region, comprising:~~
 - an objective lens;
 - a lens holder for supporting said objective lens at a position opposite said effective pixel region and demarcating an optical path from said objective lens to said effective pixel region;
 - a ~~translucent~~ transparent cover placed opposite ~~to~~ said effective pixel region ~~on said solid-state image sensor;~~
 - a bonding portion having substantially uniform thickness for fixedly bonding said translucent transparent cover to said solid-state image sensor so as to form a sealed space enclosing said effective pixel region between said one side of said solid-state image sensor and said transparent cover; and
 - a joint portion for fixedly joining said lens holder ~~optical path demarcating unit~~ to said ~~translucent transparent~~ cover; wherein whereby said objective lens is positioned via said joint portion and said bonding portion with respect to said effective pixel region with ~~the~~ said one side of said solid-state image sensor defined as a positioning reference, and

said bonding portion consists of a bonding agent having substantially uniform thickness and formed by patterning on said one side of said solid-state image sensor in a shape enclosing said effective pixel region, or on the surface of said transparent cover opposite said one side of said solid-state image sensor in a shape enclosing said effective pixel region when said transparent cover is placed opposite said effective pixel region, by fixedly joining said optical path demarcating unit to said translucent cover via said joint portion, and by fixedly bonding said translucent cover to said solid-state image sensor via said bonding portion.

2. (Currently Amended) The module for an optical device as set forth in claim 1, wherein said transparent cover is formed to have a plane size smaller than the plane size of said one side of said solid-state image sensor, joint portion is joined by fixedly bonding said translucent cover and said optical path demarcating unit.

3. (Currently Amended) The module for an optical device as set forth in claim 2, comprising:
an image processing device; and
a wiring substrate, wherein
said image processing device is bonded to said wiring substrate,
and
translucent cover is formed to have a plane size smaller than the plane size of the one side of said solid-state image sensor, is bonded to a plane portion of said image processing device.

4. (Currently Amended) The module for an optical device as set forth in claim ~~31~~, wherein said patterning of said bonding portion is performed by removing unnecessary portion of a ~~contains a~~ photosensitive bonding agent coated with substantially uniform thickness on said one side of said solid-state image sensor, or on the surface of said transparent cover opposite said one side of said solid-state image sensor.

5. (Currently Amended) The module for an optical device as set forth in claim 4, wherein said transparent cover is formed to have a plane size smaller than the plane size of said one side of said solid-state image sensor. ~~a space is formed between said effective pixel region and said translucent cover, and said bonding portion is formed at the peripheral portion of said effective pixel region on the one side of said solid-state image sensor.~~

6. (Currently Amended) The module for an optical device as set forth in claim 5,
comprising:

an image processing device; and

a wiring substrate, wherein

said image processing device is bonded to said wiring
substrate, and

said solid-state image sensor is bonded to a plane portion of
said image processing device, bonding portion is
configured to seal said space formed between said
effective pixel region and said translucent cover.

7. (Currently Amended) The module for an optical device as set forth in claim
6~~1~~, wherein said patterning of said bonding portion is performed
by printing a bonding agent in a frame-like shape with
substantially uniform thickness on said one side of said solid-
state image sensor, or on the surface of said transparent cover
opposite said one side of said solid-state image sensor, lens is
placed so as to oppose to said effective pixel region, and is held by
said optical path demarcating unit.

8. (Currently Amended) The module for an optical device as set forth in claim 7,
wherein said transparent cover is formed to have a plane size
smaller than the plane size of said one side of said solid-state
image sensor.
~~an image processing device is bonded to a wiring substrate, and
said solid-state image sensor is bonded to a plane portion of said
image processing device.~~

9. (Currently Amended) The module for an optical device as set forth in claim 8,
comprising:

an image processing device; and

a wiring substrate, wherein

said image processing device is bonded to said wiring
substrate, and

said solid-state image sensor is bonded to a plane portion of

said image processing device, being used as a module
for a camera.

CLAIMS 10-15 (CANCELLED)

- 16 (New) The module for an optical device as set forth in claim 1, wherein said patterning of said bonding portion is performed by affixing an adhesive sheet formed in a frame-like shape with substantially uniform thickness on said one side of said solid-state image sensor, or on the surface of said transparent cover opposite said one side of said solid-state image sensor.
- 17 (New) The module for an optical device as set forth in claim 16, wherein said transparent cover is formed to have a plane size smaller than the plane size of said one side of said solid-state image sensor.
- 18 (New) The module for an optical device as set forth in claim 17, comprising:
an image processing device; and
a wiring substrate, wherein
said image processing device is bonded to said wiring substrate, and
said solid-state image sensor is bonded to a plane portion of said image processing device.
19. (New) The module for an optical device as set forth in claim 1, wherein said patterning of said bonding portion is performed by coating a bonding agent with use of dispense method in a frame-like shape with substantially uniform thickness on said one side of said solid-state sensor, or on the surface of said transparent cover opposite said one side of said solid-state image sensor.

20. (New) The module for an optical device as set forth in claim 19, wherein said transparent cover is formed to have a plane size smaller than the plane size of said one side of said solid-state image sensor.

**21. (New) The module for an optical device as set forth in claim 20, comprising:
an image processing device; and
a wiring substrate, wherein
said image processing device is bonded to said wiring substrate,
and
said solid-state image sensor is bonded to a plane portion of said image processing device.**

CLAIMS 22-36 (CANCELLED)